

What is claimed is:

1. (Currently Amended) A thermoplastic elastomer prepared using a catalyst system useful in preparing an elastomeric composition, the catalyst system comprising:

at least one non-brominated phenolic resin;

at least one ~~ingredient selected from the group consisting of a~~ non-transition metal halide wherein the halide comprises magnesium chloride, calcium chloride, sodium chloride, potassium chloride, or combinations thereof ~~and a nanoclay;~~

~~optionally;~~ at least one acid selected from the group consisting of oxalic acid, citric acid, stearic acid, and combinations thereof; and

~~optionally, at least one hydrogen halide scavenger wherein when the ingredient is nanoclay, the phenolic resin is brominated.~~

2. (Cancelled)

3. (Currently Amended) The thermoplastic elastomer of claim 1, catalyst system of claim 2, wherein the at least one phenolic resin comprises methylol groups.

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Currently Amended) A process for making ~~an elastomeric composition~~ a thermoplastic elastomer, the process comprising:

- 5 providing a catalyst system ~~of Claim 1~~;
 providing at least one thermoplastic polymer or precursors for at least one thermoplastic polymer;
 providing at least one uncured elastomer;
 mixing components of the catalyst system, simultaneously or
10 sequentially, with the uncured elastomer; and
 heating the uncured elastomer in the presence of the catalyst system to form the thermoplastic elastomer, ~~elastomeric composition~~
 wherein the catalyst system comprises at least one non-brominated phenolic resin;
15 at least one non-transition metal halide wherein the halide comprises magnesium chloride, calcium chloride, sodium chloride, potassium chloride, or combinations thereof;
 at least one acid selected from the group consisting of oxalic acid, citric acid, stearic acid, and combinations thereof; and
20 optionally, at least one hydrogen halide scavenger.

10. (Currently Amended) The process of claim 9, wherein the amount of the phenolic resin used is about 2 to about 10 percent by weight based on total weight of the uncured elastomer;

- 25 ~~wherein the amount of the halide used is about 2 to about 8 percent by weight based on total weight of the uncured elastomer; and~~
 ~~wherein the amount of the acid used is about 1 to about 5 percent by weight based on total weight of the uncured elastomer.~~

11. (Currently Amended) The process of claim 9, wherein the thermoplastic elastomer ~~elastomeric composition~~ is prepared using reactive extrusion.

5 12. (New) The process of Claim 9, wherein the amount of the halide used is about 2 to about 8 percent by weight based on total weight of the uncured elastomer.

10 13. (New) The process of Claim 9, wherein the amount of the acid used is about 1 to about 5 percent by weight based on total weight of the uncured elastomer.

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